

**REMARKS**

By the foregoing amendment, claim 1 has been amended and claims 15 and 16 have been canceled.

Claim 1 has been amended to insert a specific biological activity, inhibition of NF $\kappa$ B activation, for the recited PAAD domain-containing polypeptide for which the claimed nucleic acid encodes. This amendment is supported by *inter alia* the disclosure at specification page 117, lines 1-6. No new matter has been added by the amendment.

Claims 1-4 are now pending in the application.

**Response to Specific Points Raised in the Office Action**

The Office Action contains a rejection of claims 1-4 under 35 U.S.C. § 112, second paragraph. According to the Action, the claims are indefinite because the definition of the claim term “biologically active” is vague and indefinite. According to the Action, “[a]mending the claims to recite the specific biological activities intended to be encompassed would be remedial.”

Although Applicants do not necessarily agree with the rejection, they point out that claim 1 has been amended to specifically recite the biological activity of inhibition of NF $\kappa$ B activation. This activity is recited at page 117, lines 1-6 of the specification, which states, “[a]s evidenced by the data shown in Table 4, overexpression of the PAAD domain of PAD6 inhibits NF $\kappa$ B activation by a variety of proteins....” Applicants submit that, while not changing the substantive scope of the invention, the amendment obviates

the basis for the rejection by clarifying the language used to describe the claimed invention. Withdrawal of the rejection is therefore requested.

The Office Action also rejects claims 1, 3-4 and 15-16 as being anticipated under 35 U.S.C. § 102(a) over NIH-MGC.

First, with regard to claims 15 and 16, these claims have been canceled. Thus the rejection of claims 15 and 16 has been rendered moot. Applicants respectfully traverse the rejection of claims 1-4 as follows.

In order for a reference to anticipate a claim, it must teach each and every limitation of the claim. According to the Office Action, NIH-MGC teaches a nucleic acid molecule identified by Accession Number AW673661. According to the Action, this cDNA clone is 97.7% identical over a 571 nt length of SEQ ID NO:23 and would be expected to specifically hybridize to the nucleic acid of SEQ ID NO:23 under highly stringent conditions. The action further states that the term “biologically active” broadly includes “the ability to act as an immunogen for the production of polyclonal and monoclonal antibodies that bind specifically to an invention PAAD domain-containing polypeptide (PAN6).” According to the Action, “the cDNA encodes such a long fragment of SEQ ID NO:24 (PAN6) that it is a fragment of PAN6 that would act as a specific immunogen for PAN6. Applicant submits that this analysis ignores at least one claim element and thus fails to demonstrate anticipation of the claims.

Claim 1 recites:

An isolated nucleic acid molecule encoding a PAD6 polypeptide, comprising:

(a) a nucleic acid molecule encoding a polypeptide comprising the amino acid sequence set forth as SEQ ID NO:24; or

(b) a nucleic acid molecule that hybridizes to the nucleic acid molecule of (a) under highly stringent conditions, wherein **the nucleic acid of (a) or (b) encodes a PAAD domain-containing polypeptide** having NF $\kappa$ B activation inhibiting activity.

(Emphasis added.)

Applicants submit that the reference fails to teach the claimed nucleic acid encoding a PAAD domain-containing polypeptide. As taught at page 115 of the specification, the PAAD domain of PAD6 corresponds to base pairs 34-271 of SEQ ID NO:23. In contrast, as is apparent from the sequence listing included in the Action, Accession Number AW673661 corresponds to base pairs 1297-1866 of SEQ ID NO:23. Thus AW673661 fails to code for even a portion of the PAAD domain of PAD 6. Accordingly, the NIH-MGC reference fails to teach at least one element of claim 1 (and by extension dependent claims 2-4). The rejection under 35 U.S.C. § 102(a) over NIH-MGC is therefore untenable and should be withdrawn.

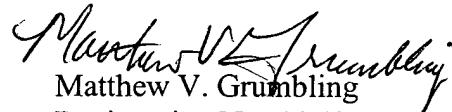
### CONCLUSION

In light of the amendments and remarks herein, Applicants submit claims 1-4 are now in condition for allowance and respectfully request a notice to this effect. Should the Examiner have any questions or suggestions for expediting prosecution, he is invited to contact the undersigned.

Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account 502624 and please credit any excess fees to such deposit account.

Respectfully submitted,

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**Date: December 8, 2004**